

CLAIMS

WHAT IS CLAIMED IS:

1. An apparatus for adjusting a die of a printing press, comprising:

a chase defining a vertical axis and a horizontal axis;

a die frame slidably secured to the chase to allow the adjustment of the die frame in the vertical axis and the horizontal axis of the chase.
2. An apparatus, as in Claim 1, further comprising:

at least one horizontal guide secured within the chase; and

at least one vertical guide secured in the chase, the at least one horizontal guide and the at least one vertical guide slidably connected to the die frame to slidably secure the die frame to the chase and to permit the die frame to be slidably positioned along both the at least one horizontal guide and the at least one vertical guide.
3. An apparatus, as in Claim 2, the chase comprising an upper horizontal member, a lower horizontal member, a left vertical member secured to the upper horizontal member and the lower horizontal member and a right vertical member secured to the upper horizontal member and the lower horizontal member.
4. An apparatus, as in Claim 3, further comprising:

a vertical mount movably secured to the at least one vertical guide, with the die frame secured to the vertical slidable mount to slidably connect the die frame to the at least one vertical guide;

a horizontal mount movably secured to the at least one horizontal guide and secured to a first end of the at least one vertical guide; and

a second end of the at least one vertical guide slidably secured to one of the upper horizontal member and the lower horizontal member of the chase to permit the horizontal movement of the second end the at least one vertical guide along one of the upper horizontal member and the lower horizontal member.

5. An apparatus, as in Claim 4, the second end of the at least one vertical guide secured to a sliding element to slidably secure the second end of the at least one vertical guide to one of the upper horizontal member and the lower horizontal member of the chase, the sliding element securedly attached to the second end of the at least one vertical guide and slidably attached to one of the upper horizontal member and the lower horizontal member.

6. An apparatus, as in Claim 1, further comprising at least one of a coarse vertical adjustment and a coarse horizontal adjustment.

7. An apparatus, as in Claim 5, further comprising at least one of a coarse vertical adjustment and a coarse horizontal adjustment.

8. An apparatus, as in Claim 1, further comprising at least one of a fine vertical adjustment and a fine horizontal adjustment.

9. An apparatus, as in Claim 5, further comprising at least one of a fine vertical adjustment and a fine horizontal adjustment.

10. An apparatus, as in Claim 4, with at least one of the vertical guides comprising a spirally threaded vertical guide.

11. An apparatus, as in Claim 10, further comprising a vertical fine adjustment, the vertical fine adjustment including a spur gear and a worm gear, the spur gear attached to the spirally threaded vertical guide and the worm gear meshing with the spur gear such that the spur gear rotates the spirally threaded vertical rod when the worm gear is rotated.

12. An apparatus, as in Claim 10, further comprising the spirally threaded vertical guide received in a vertical bore of the vertical mount in a gearing relationship such that when the vertical spirally threaded rod is rotated the vertical mount moves along the vertical axis of the chase.

13. An apparatus, as in Claim 12, further comprising a fine vertical adjustment, the fine vertical adjustment including a spur gear and a worm gear, the spur gear attached to the spirally threaded vertical guide and the worm gear meshing with the spur gear such that the spur gear rotates the spirally threaded vertical guide when the worm gear is rotated.

14. An apparatus, as in Claim 12, further comprising a coarse vertical adjustment, the coarse adjustment including a vertical actuator movably received within a vertical actuator receiving cavity in the vertical mount and having an at least partially threaded bore extending through the vertical actuator, the at least partially threaded bore including receiving threads and being coextensive with the vertical bore of the vertical mount, the at least partially threaded bore providing the gearing relationship with the spirally threaded vertical guide, and the at least partially threaded bore being sized to release the spirally threaded vertical guide when the vertical actuator is displaced relative to the vertical mount.

15. An apparatus, as in Claim 14, further comprising the receiving threads of the partially threaded bore biased in a gearing relationship with the spirally threaded vertical guide by a compressible element biased between a bottom surface of the vertical actuator and a bottom of the cavity in the vertical mount.

16. An apparatus, as in Claim 15, with the compressible element comprising a coiled spring.

17. An apparatus, as in Claim 4, with at least one of the at least one horizontal guides comprising a spirally threaded horizontal guide.

18. An apparatus, as in Claim 17, further comprising the spirally threaded horizontal guide received in a horizontal bore of the horizontal mount in a gearing relationship such that when the spirally threaded horizontal guide is rotated, the horizontal mount moves along the horizontal axis of the chase.

19. An apparatus, as in Claim 18, further comprising a fine horizontal adjustment, the fine horizontal adjustment including a spur gear attached to the spirally threaded horizontal guide, and a worm gear, with the worm gear meshing with the spur gear such that, when the worm gear is rotated, the spur gear rotates the spirally threaded horizontal guide to move the horizontal mount along the horizontal axis of the chase.

20. An apparatus, as in Claim 18, further comprising a coarse horizontal adjustment, the coarse adjustment including a horizontal actuator movably received within a horizontal actuator receiving cavity in the horizontal mount and having an at least partially threaded bore extending through the actuator, the at least partially threaded bore including receiving threads and being coextensive with the horizontal bore of the horizontal mount, the

at least partially threaded bore providing the gearing relationship with the spirally threaded horizontal guide, and the at least partially threaded bore being sized to release the spirally threaded vertical guide when the horizontal actuator is displaced relative to the horizontal mount.

21. An apparatus, as in Claim 20, further comprising the receiving threads of the partially threaded bore biased in a gearing relationship with the spirally threaded horizontal guide by a compressible element biased between a bottom surface of the horizontal actuator and a bottom of the cavity in the horizontal mount.

22. An apparatus, as in Claim 21, with the compressible element comprising a coiled spring.

23. An apparatus for adjusting a die of a printing press, comprising:

a chase including an upper horizontal member, a lower horizontal member, a left vertical member and a right vertical member and defining a vertical and a horizontal axis;

at least one horizontal guide secured between the left vertical member and the right vertical member;

at least one vertical guide slidably secured between the upper horizontal member and the lower horizontal member to permit movement of the vertical guide along the horizontal axis;

a die frame slidably secured to the at least one vertical guide to permit movement of the die frame along the vertical axis.

24. A method for adjusting a die of a printing press, comprising:

providing a die;

providing a die fixture including a chase defining a vertical and a horizontal axis, and a die frame slidably secured to the chase to allow the die frame to slide along the vertical axis and to be slid along the horizontal axis of the chase.

mounting the die in the die frame;

mounting the die fixture in the printing press; and

adjusting the position of the die by sliding the die along at least one of the vertical axis and the horizontal axis.

25. An apparatus for adjusting a die of a printing press, comprising:

a chase defining a vertical and a horizontal axis; and

a means for adjusting the die frame in the vertical axis and the horizontal axis, with the means for adjusting secured to the chase.